

**REMARKS**

This application, Application Number 10/576,438, is a National Stage Application of International Application Number PCT/US2005/011387 filed April 4, 2005 ("the International Application"). The applicant requests reconsideration and further examination of this application. Specifically, the applicant requests consideration of the above amendments and the following remarks in response to July 22, 2009 Office Action.

**I. CURRENT CLAIM SET**

With this submission, no new matter has been added to this application. Claims 1, 7-8, 10-11, 13, 15-16, 18, 20, 22 and 26-27 have been amended. Claims 2, 6, 19 and 21 have been canceled; claim 25 had been previously canceled. Claims 3-5, 9, 12, 14, 17 and 23-24 are original. Therefore, claims 1, 3-5, 7-18, 20, 22-24 and 26-27 appear for the Examiner's consideration and examination.

Claim 1 is amended to specify the food packaging film as a barrier to oxygen; basis for this amendment may be found, for example, in now-canceled claim 2 and at Page 17 lines 4-6 of the original International Application as filed. Claim 1 is also amended to specify the film as comprising a nitrogen-oxide containing compound; basis for this amendment may be found, for example, at Page 13 lines 14-15 of the original International Application as filed. Claim 1 is further amended to specify the effective amount of the nitrogen-oxide containing compound as capable of interacting with the myoglobin-containing food product to produce the desirable color; basis for this amendment may be found, for example, in claim 1 of the original International Application as filed. Claim 1 is also amended to specify the effective amount of nitrogen oxide-containing compound as insufficient to effectively cure the entire myoglobin-containing food product; basis for this amendment may be found, for example, at Page 16 line 9 of the original International Application as filed.

Claim 7 is amended to change the dependency in light of the amendments to claim 1 and claim 6.

Claim 8 is amended to change the dependency in light of the amendments to claim 1 and claim 6.

Claim 10 is amended to correct a typographical error. Page 13 lines 28-29 of the original International Application as filed state, "Also, the film 22 may also be formed with an adhesive layer

34 disposed between layers 24 and 28 of the film 22.” (As explained at Page 13 line 9 of the original International Application as filed, layer 24 has a food contact surface.) Prior to this amendment, claim 10 stated that the food contact layer may be an adhesive. This typographical error is now corrected with this amendment to state that the at least one additional layer may be an adhesive.

Claim 11 is amended to specify the adhesive comprises the nitrogen oxide-containing compound; basis for this amendment may be found, for example, at Page 13 lines 29-31 or the original International Application as filed.

Claim 13 is amended to specify the nitrogen-containing compound as a nitrogen oxide-containing compound; basis for this amendment may be found, for example, at Page 13 lines 14-15 of the original International Application as filed. Claim 13 is also amended to specify the tray as a barrier to oxygen; basis for this amendment may be found, for example, at Page 17 lines 28-30 of the original International Application as filed. Claim 13 is also amended to specify the film as a barrier to oxygen; basis for this amendment may be found, for example, at Page 17 lines 4-6 of the original International Application as filed. Claim 13 is further amended to specify the effective amount of the nitrogen oxide-containing compound as capable of creating and stabilizing a desirable color on a viewable surface of the food item; basis for this amendment may be found, for example, at Page 14 lines 18-20 of the original International Application as filed. Claim 13 is also amended to specify the effective amount of the nitrogen oxide-containing compound as insufficient to effectively cure the entire food item; basis for this amendment may be found, for example, at Page 16 line 9 of the original International Application as filed.

Claim 15 is amended to specify the nitrogen-containing compound as a nitrogen oxide-containing compound in light of the amendments to claim 13. Claim 15 is also amended to clarify the tray comprises the nitrogen oxide-containing compound; basis for this amendment may be found, for example, at Page 17 lines 28-30.

Claim 16 is amended to specify the method as creating and stabilizing a desirable color on a viewable surface of the food item; basis for this amendment may be found, for example, at Page 14 lines 18-20 of the original International Application as filed. Claim 16 is also amended to specify the film as a barrier to oxygen; basis for this amendment may be found, for example, at Page 17 lines 4-6 of the original International Application as filed. Claim 16 is further amended to specify the oxide of nitrogen as in an amount that is insufficient to effectively cure the entire food item; basis for this

amendment may be found, for example, at Page 16 line 9 of the original International Application as filed.

Claim 18 is amended to specify the other gases as non-oxygen gases; basis for this amendment may be found, for example, at Page 14 lines 25-27 of the original International Application as filed.

Claim 20 is amended to correct the dependency and the antecedent in light of the amendments to claim 16 and claim 19.

Claim 22 is amended to correct the dependency and the antecedent in light of the amendments to claim 16 and claim 19.

Claim 26 is amended to specify the nitrogen-containing compound as a nitrogen oxide-containing compound; basis for this amendment may be found, for example, at Page 13 lines 14-15 of the original International Application as filed. Claim 26 is also amended to specify the nitrogen oxide-containing compound as in an amount insufficient to effectively cure the entire food item; basis for this amendment may be found, for example, at Page 16 line 9 of the original International Application as filed. Claim 26 is further amended to specify oxygen as barred from the food product; basis for this amendment may be found, for example, at Page 14 lines 25-27.

Claim 27 is amended to define the effective amount and to correct a typographical error.

Page 19 lines 1-4 of the original International Application as filed state,

[T]he surface will have at least 0.0008 mg per square inch and beneficially at least 0.0016 mg per square inch in a transferable amount in order to effect a suitable color change within 96 hours after contact with an uncooked meat in an oxygen barrier vacuum packaged environment.

Prior to this amendment, claim 27 included, in part, the limitation of "an amount sufficient to transfer between 0.0008 and 0.016 milligram per square inch." This typographical error is now corrected with this amendment to state that the effective amount is sufficient to transfer at least 0.0008 milligram per square inch. Claim 27 is also amended to specify the effective amount of the oxide of nitrogen as insufficient to effectively cure the entire uncooked meat product; basis for this amendment may be found, for example, at Page 16 line 9 of the original International Application as filed.

## **II. APPLICANT'S RESPONSE TO JULY 22, 2009 OFFICE ACTION**

The Examiner presents claim rejections in the July 22, 2009 Office Action. As discussed below, with this current submission, the applicant addresses and traverses the claim rejections and

requests that the Examiner allow the pending claims (i.e., claims 1, 3-5, 7-18, 20, 22-24 and 26-27) of the present application.

A. *Response to Claim Rejections – 35 USC § 102*

Paragraph 2 of the July 22, 2009 Office Action states that claims 1-4, 6-11, 16, 19-24 and 26 are rejected under 35 USC § 102(b) as allegedly being anticipated by Meier et al. (US Patent 6,623,773) (Meier) as evidenced by Shimp et al. (US Patent 4,781,934) (Shimp). The applicant respectfully traverses each of these rejections in light of the current claim amendments and the following remarks.

1. *Claim 1*

For claim 1, the Examiner states,

With regard to Claim 1, Meier et al disclose a food packaging film (column 2, lines 63-65) comprising a food [contact] layer capable of contacting a myoglobin food product (red meat; column 3, lines 45-47) held within a package formed within [sic, "with"] the film (substrate; column 2, line 44) and a food treatment layer (column 2, line 45) comprising a curing agent comprising salt (column 3, lines 45-47) comprising nitrite (column 2, lines 20-24), therefore a nitrogen oxide-containing compound. Meier et al do not disclose that the layer interacts with the food product to produce a desirable color, but Shimp et al disclose that curing of meat produces a red color (column 1, lines 10-15); the claimed aspect of interacting with the food product to produce a desirable color is therefore inherent to Meier et al. (Emphasis added.)

The current amendments to claim 1 include the following limitation:

the effective amount of the nitrogen oxide-containing compound is insufficient to effectively cure the entire myoglobin-containing food product.

In contrast, the teachings of Meier and Shimp are specific to compositions and processes for effectively curing meat:

Packaging Material for Curing or Marinating Fresh Foods during Storage at Low Temperatures. (Meier, Title, emphasis added.)

A packaging material for packaging a selected fluid-containing fresh food item for providing simultaneous curing or marinating of such food item and storage of the same at normal refrigeration temperatures. (Meier, Abstract, emphasis added.)

The invention concerns the processing of fresh foods by packaging in such a way as to achieve marinating or curing of the foods at low temperatures during the time that the foods are stored prior to consumption. More particularly, it is directed to a method and packaging material for wrapping fresh food products and marinating or curing the same during cold storage. (Meier, Column 1 lines 11-17, emphasis added.)

The amount of curing or marinating agent retained by the predetermined amount of adhesive is that which is required to substantially cure or marinate the selected food item. (Meier, Column 1 lines 64-67, emphasis added.)

The wrapped/sealed food item is maintained at said low temperature at least until it is substantially cured or marinated. (Meier, Column 2 lines 8-10, emphasis added.)

The amount of curing or marinating agent retained by the predetermined amount of adhesive is that which is required to substantially cure or marinate said selected food item and the amount of adhesive has been determined by the amount of curing or marinating agent required to be retained by the adhesive. (Meier, Column 2 lines 24-29, emphasis added.)

The word "calibrate" used herein with reference to the adhesive means that the amount of the adhesive applied to the substrate is adjusted exactly so that it will hold the particular quantity of curing or marinating agent which is required to be able to cure or marinate the particular food item for which the packaging material is intended. (Meier, Column 2 lines 53-59, emphasis added.)

The curing or marinating agent is a substance capable of curing or marinating the particular fresh food at low temperatures, i.e. at refrigeration temperatures around 0°C. The term "curing" or marinating "agent" herein means any edible composition effective for curing or marinating fresh foods at temperatures around 0°C. (Meier, Column 3 lines 29-34, emphasis added.)

The loading of the curing or marinating agent is dependent on the type, weight and size of food product. (Meier, Column 4 lines 44-45, emphasis added.)

The sealed food product is maintained at a low temperature in a refrigerator (a chiller) at least until the food is substantially cured or marinated. (Meier, Column 5 lines 26-28, emphasis added.)

Process and Composition for Curing Meat. (Shimp, Title, emphasis added.)

Pork and other meat products are cured with pickling solutions from which nitrite is effectively exhausted during curing . . . (Shimp, Abstract, emphasis added.)

This invention relates to meat curing processes and to pickling solutions useful therefor. (Shimp, Column 1 lines 7-8, emphasis added.)

It has now been found that a single glassy phosphate can be used as the phosphate component of nitrite ion containing pickling solutions to maintain the pH of the solutions in the optimal range for nitrite depletion in the curing of meat products. (Shimp, Column 2 lines 42-46, emphasis added.)

One aspect of the invention, therefore, is a meat curing process wherein a meat product is contacted with an aqueous pickling solution . . . (Shimp, Column 3 lines 6-8, emphasis added.)

In another aspect of the invention, a pickling solution effective for meat curing is provided . . . (Shimp, Column 3 lines 14-15, emphasis added.)

The meat products treatable by the process of the invention are any meats or meat derivatives curable by contact with nitrite containing pickling solutions. (Shimp, Column 3 lines 53-55, emphasis added.)

Other details and steps in the meat curing process, including preparation of the meat product for curing, . . . , are well known, as described in many of the above-cited patents and publications, and require no further description. (Shimp, Column 5 lines 18-24, emphasis added.)

With the present amendment, claim 1 includes the element of an amount of nitrogen oxide-containing compound that is insufficient to effectively cure an entire myoglobin-containing food product. As explained in the original International Application as filed,

Best results occur when the level of nitrite is controlled so that only enough nitric oxide is released to affect the pigments within the viewing surface 100 of the food product 12. The nitrite level required for this result is less than one-tenth (1/10) of the nitrite commonly used for curing. In fact, it is part of the focus of the present method to controllably deliver only enough nitric oxide to affect the viewing surface 100 of the meat 12. Nitrite levels typically associated with curing are so high that their effect on the color lasts after cooking. In a preferred embodiment the level of nitrite that can be used in the present inventive method is so small that in most embodiments it is not analytically detectable as nitrite or nitrate in the finished product by commonly used test methods. Furthermore, the amount is insufficient to effectively cure the entire product 12. More specifically, in one example of the present invention the immediate 0.25 inches of beef that was exposed to the film containing the proper level of nitrite was tested for nitrite. It is an important observation that after short (about 48 hours) and long (about 7-10 days) periods of exposure, no nitrite was measured in the meat (minimum detection level = 2.0 ppm). Thus, a very small amount of sodium nitrite is needed for its desired affect. (International Application, Page 15 line 34 – Page 16 line 17, emphasis added.)

To anticipate a claim, the reference must teach every element of the claim. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference" (citations omitted). Verdegaal Bros. v. Union Oil Co. of California, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the patent claim" (citations omitted). Richardson v. Suzuki Motor Co., 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Meier (either alone or as evidenced by Shimp) teaches compositions and processes that effectively cure an entire food product. Meier (either alone or as evidenced by Shimp) does not teach the element of a nitrogen oxide-containing compound in an amount that is insufficient to effectively cure an entire myoglobin-containing food product. This element is in claim 1, as amended. Therefore, Meier (either alone or as evidenced by Shimp) does not anticipate claim 1, as amended. The applicant respectfully requests that the Examiner withdraw the 35 U.S.C. § 102(b) rejection of claim 1 (as amended) and allow this claim.

Further addressing claim 1, the Examiner then states,

With regard to the claimed aspect of the film being 'for use in creating and stabilizing a desirable color on a viewable surface of a raw myoglobin-containing food product' is directed to an intended use and is therefore given little patentable weight.

The claimed process aspect to which the Examiner refers actually states, "for use in creating and stabilizing a desirable color on a viewable surface of a raw myoglobin-containing food product *without deleteriously affecting the subsurface color of the food product*" (emphasis added). As cited above, the original International Application as filed (at Page 15 line 24 – Page 16 line 17) explains that the level of nitrogen oxide-containing compound is not effective to cure the product and not effective to affect the subsurface color of the product (cf. lines 3-5, "In fact, it is part of the focus of the present method to controllably deliver only enough nitric oxide to affect the viewing surface 100 of the meat

12"). The process aspect included in the preamble of claim 1 results in a manipulative difference between claim 1 (which teaches not affecting the subsurface color) and Meier (either alone or as evidenced by Shimp) (which teaches effectively curing and causing a color change throughout the entire product). As instructed by the Manual of Patent Examining Procedure (MPEP),

During examination, statements in the preamble reciting the purpose or intended use of the claimed invention must be evaluated to determine whether the recited purpose or intended use results in a structural difference (or, in the case of process claims, manipulative difference) between the claimed invention and the prior art. If so, the recitation serves to limit the claim. (§2111.01(II), Eighth Edition, August 2001, Latest Revision July 2008.)

Therefore, the applicant respectfully submits that the Examiner is incorrect in stating that this claimed aspect is "directed to an intended use and is therefore given little patentable weight." The Examiner should have evaluated and considered this limitation.

## *2. Claims 2-4 and 6-9*

For claims 2-4 and 6-9, the Examiner states,

With regard to Claims 2-4 and 6-9, the film is a barrier to oxygen (impermeable to air; column 5, lines 20-25).

For reference, Column 5 lines 20-25 of Meier states,

If the wrapped food is vacuum sealed the film 2 need not be impermeable to air and microorganisms since that function is fulfilled by the bag or container. However, where no vacuum bag or container is used and the sheet 10 is the only wrapping for the food, the film 2 should be impermeable to air and microorganisms.

For reference, claims 2-4 and 6-9, as reviewed by the Examiner for the July 22, 2009 Office Action, are reproduced below:

2. (original) The packaging film of claim 1 wherein the food packaging film is a barrier to oxygen.
3. (original) The packaging film of claim 1 wherein the nitrogen oxide -containing compound forms nitric oxide when contacted with the food product.
4. (original) The packaging film of claim 3 wherein the nitrogen oxide -containing compound is a nitrite.
6. (original) The packaging film of claim 1 wherein the nitrogen oxide -containing compound is present in an amount sufficient to affect the viewable surface of the food product.
7. (currently amended) The packaging film of claim 6 wherein the nitrogen oxide -containing compound is applied to the a surface of the food contact layer.
8. (original) The packaging film of claim 6 wherein the nitrogen oxide -containing compound is incorporated into the food contact layer.
9. (original) The packaging film of claim 1 further comprising at least one additional layer positioned on the food contact layer.

Claim 2, as reviewed by the Examiner, describes the food packaging film as a barrier to oxygen. As such, this film is impermeable to air (and is not an air permeable packaging material as disclosed in, for example, US Patent 3,154,423 to Voegeli, et al.). With the present amendment,

claim 1 is amended to include the limitation of the film as an oxygen barrier; and claim 2 is canceled. As described above, the cited prior art does not anticipate claim 1, as amended.

Applicant's attorney is confused by the Examiner's rejections of claims 3-4 and 6-9. The specific citation (i.e., Meier, Column 5 lines 20-25) makes no mention of a nitrogen oxide-containing compound forming nitric oxide when contacted with a food product (claim 3), makes no mention of a nitrogen oxide-containing compound being a nitrite (claim 4), makes no mention of a nitrogen oxide-containing compound present in an amount sufficient to affect a viewable surface of a food product (claim 6, which is canceled with the present amendment), makes no mention of a nitrogen oxide containing compound applied to a surface of a food contact layer (claim 7, which is amended to change dependency with the present amendment), makes no mention of a nitrogen oxide-containing compound incorporated in a food contact layer (claim 8, which is amended to change dependency with the present amendment) and makes no mention of at least one additional layer positioned on a food contact layer (claim 9). The applicant respectfully submits that the Examiner cited no basis for rejecting claims 3-4 and 6-9 and that the Examiner should have allowed these claims with the July 22, 2009 Office Action. Additionally, with the present submission, claims 3-4 and 7-9 continue to (ultimately) depend from claim 1. As described above, the cited prior art does not teach every element of claim 1, as amended. Therefore, the cited prior art does not teach every element of claims 3-4 and 7-9. For these reasons, the applicant respectfully requests that the Examiner withdraw the 35 U.S.C. § 102(b) rejection of claims 3-4 and 7-9 (as amended) and allow each of these claims.

3. *Claim 10*

With the present submission, claim 10 is amended to correct a typographical error. With such amendment, claim 10 continues to (ultimately) depend from claim 1. As described above, the cited prior art does not teach every element of claim 1. Therefore, the cited prior art does not teach every element of claim 10. The applicant respectfully requests that the Examiner withdraw the 35 U.S.C. § 102(b) rejection of claim 10 (as amended) and allow this claim.

4. *Claim 11*

With the present submission, claim 11 is amended to specify the adhesive (of the at least one additional layer of claim 10) comprises the nitrogen oxide-containing compound. With such amendment, claim 11 continues to (ultimately) depend from claim 1. As described above, the cited prior art does not teach every element of claim 1. Therefore, the cited prior art does not teach every



element of claim 11. The applicant respectfully requests that the Examiner withdraw the 35 U.S.C. § 102(b) rejection of claim 11 (as amended) and allow this claim.

5. *Claims 16, 19, 21-24 and 26*

For claims 16, 19, 21-24 and 26, the Examiner states,

With regard to Claims, 16, 19, 21-24 and 26, Meier et al therefore disclose release of the nitrogen-containing compound in a controlled manner and a method comprising providing the film with the oxide of nitrogen.

With the present submission, claim 16 is amended to specify the oxide of nitrogen as in an amount that is insufficient to effectively cure the entire food item. (Claim 16 is also amended to specify the method as creating and stabilizing a desirable color on a viewable surface of the food item and to specify the film as a barrier to oxygen (i.e., impermeable to air and not an air permeable packaging material as disclosed in, for example, US Patent 3,154,423 to Voegeli, et al..)) As described above, Meier (either alone or as evidenced by Shimp) does not teach the element of an oxide of nitrogen in an amount that is insufficient to effectively cure an entire food item. Therefore, Meier (either alone or as evidenced by Shimp) does not anticipate claim 16, as amended. The applicant respectfully requests that the Examiner withdraw the 35 U.S.C. § 102(b) rejection of claim 16 (as amended) and allow this claim.

With the present submission, claims 19 and 21 are cancelled.

With the present submission, claim 22 is amended to correct the dependency and the antecedent. With such amendment, claim 22 depends from claim 16. As described above, the cited prior art does not teach every element of claim 16. Therefore, the cited prior art does not teach every element of claim 22. The applicant respectfully requests that the Examiner withdraw the 35 U.S.C. § 102(b) rejection of claim 22 (as amended) and allow this claim.

For claims 23 and 24, applicant's attorney is, once again, confused by the Examiner's rejection and respectfully requests that the Examiner provide additional explanation. The applicant respectfully submits that the rejection violates 37 C.F.R. § 1.104(c)(2):

In rejecting claims for want of novelty or for obviousness, the examiner must cite the best references at his or her command. When a reference is complex or shows or describes inventions other than that claimed by the applicant, the particular part relied on must be designated as nearly as practicable. The pertinence of each reference, if not apparent, must be clearly explained and each rejected claim specified.

For claim 23, it is not apparent to the applicant's attorney what particular part of Meier (either alone or as evidenced by Shimp) teaches the step of evacuating oxygen from between the film and the food

item prior to contacting the film with the food item, especially considering the Examiner's comment in Paragraph 5 of the Office Action (further discussed below) that "Meier et al fail to disclose a vacuum package comprising film." For claim 24, it is not apparent to the applicant's attorney what particular part of Meier (either alone or as evidenced by Shimp) teaches the step of treating the food item with the oxide of nitrogen prior to contacting the film with the food item. The applicant respectfully submits that the Examiner cited no basis for rejecting claims 23 and 24 and that the Examiner should have allowed these claims with the July 22, 2009 Office Action. Additionally, with the present submission, claims 23 and 24 continue to depend from claim 16. As described above, the cited prior art does not teach every element of claim 16, as amended. Therefore, the cited prior art does not teach every element of claims 23 and 24. For these reasons, the applicant respectfully requests that the Examiner withdraw the 35 U.S.C. § 102(b) rejection of claims 23 and 24 (as amended) and allow each of these claims.

With the present submission, claim 26 is amended to specify the nitrogen oxide-containing compound as in an amount insufficient to effectively cure the entire food item. (Claim 26 is also amended to specify the nitrogen-containing compound as a nitrogen oxide-containing compound and to specify oxygen as barred from the food product.) As described above, Meier (either alone or as evidenced by Shimp) does not teach the element of a nitrogen oxide-containing compound in an amount insufficient to effectively cure an entire food item. Therefore, Meier (either alone or as evidenced by Shimp) does not anticipate claim 26, as amended. The applicant respectfully requests that the Examiner withdraw the 35 U.S.C. § 102(b) rejection of claim 26 (as amended) and allow this claim.

#### 6. *Claim 20*

With the present submission, claim 20 is amended to correct the dependency and the antecedent. With such amendment, claim 20 depends from claim 16. As described above, the cited prior art does not teach every element of claim 16. Therefore, the cited prior art does not teach every element of claim 20. The applicant respectfully requests that the Examiner withdraw the 35 U.S.C. § 102(b) rejection of claim 20 (as amended) and allow this claim.

#### 7. *Summary of Response to Claim Rejections – 35 USC § 102*

As discussed above, the July 22, 2009 Office Action rejected claims 1-4, 6-11, 16, 19-24 and 26 under 35 U.S.C. § 102(b) as allegedly being anticipated by Meier as evidenced by Shimp. The

applicant respectfully traverses each of these rejections, as the cited prior art fails to include the limitations of these claims as amended. Primarily, but not exclusively, the cited prior art fails to include the limitation of a nitrogen oxide-containing compound in an amount insufficient to effectively cure an entire food item. With the present amendment, this limitation is included in each of claims 1, 3-4, 7-11, 16, 20, 22-24 and 26. (With the present amendment, claims 2, 6, 19 and 21 have been canceled.) The cited prior art does not teach every element of claims 1, 3-4, 7-11, 16, 20, 22-24 and 26. As such, each of these claims is patentable over the cited prior art.

*C. Response to Claim Rejections – 35 USC § 103*

As stated in the July 22, 2009 Office Action, claims 5, 12-15, 17-18 and 27 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over various prior art. The applicant respectfully traverses each of these rejections in light of the current claim amendments and the following remarks.

*1. Claims 5 and 27*

Paragraph 4 of the July 22, 2009 Office Action states that Claims 5 and 27 are rejected under 35 USC § 103(a) as allegedly being unpatentable over Meier et al. (US Patent 6,623,773) (Meier).

*a. Claim 5*

With the present submission, claim 5 continues to depend from claim 1. As described above, claim 1 is now amended to specify the effective amount of nitrogen oxide-containing compound as insufficient to effectively cure the entire myoglobin-containing food product. As also described above, Meier teaches compositions and processes that effectively cure an entire food product. Meier does not teach the element of a nitrogen oxide-containing compound in an amount that is insufficient to effectively cure an entire myoglobin-containing food product. With the current claim amendments, this limitation is included in claim 5. As stated by the Federal Circuit in *In re Lowry*, "The Patent and Trademark Office (PTO) must consider all claim limitations when determining patentability of an invention over the prior art." (32 USPQ2d 1031, 1034 (Fed. Cir. 1994), citing *In re Gulak*, 217 USPQ 401, 405 (Fed. Cir. 1983).) (See also *In re Royka and Martin*, 180 USPQ 580, 583 (CCPA 1974) (Obviousness requires suggestion of all limitations in a claim.)) The cited prior art does not teach or suggest every element of claim 5. The applicant respectfully requests that the Examiner withdraw the 35 U.S.C. § 103(a) rejection of claim 5 (as amended) and allow this claim.

b. *Claim 27*

With the present submission, claim 27 is amended to specify the effective amount of the oxide of nitrogen as insufficient to effectively cure the entire uncooked meat product. As described above, Meier does not teach the element of a nitrogen oxide-containing compound in an amount that is insufficient to effectively cure an entire myoglobin-containing food product. With the current claim amendments, this limitation is included in claim 27. Therefore, the cited prior art does not teach or suggest every element of claim 27.

Additionally, with the present submission, claim 27 is amended to define the effective amount as sufficient to transfer at least 0.0008 milligram oxide of nitrogen per square inch of film surface. In the July 22, 2009 Office Action, in reference to claim 27, the Examiner states,

It also would have been obvious for one of ordinary skill in the art to have determined, through routine optimization, the desired amount of sodium nitrite to the product depending on the desired amount of coloring.

The applicant respectfully submits that the Examiner is wrong in his conclusion for at least two reasons. First, as explained above (and as clarified by the present amendment), the result achieved by claim 27 is insufficiently curing the entire uncooked meat product, but the result achieved by Meier is effectively curing an entire food product. Claim 27 and Meier do not achieve the same result. "A particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation." (MPEP, §2144.05(II)(B), Eighth Edition, August 2001, Latest Revision July 2008, citing In re Antonie, 195 USPQ 6 (CCPA 1977).) Second, Meier discloses the following preferred loadings of curing or marinating agent for various food products:

Type of Food	Weight	Size in.	Amount of Agent mg. per sq. in.
Smoked Salmon	2.5-3 lbs	18 x 10	350
Gravad Lax	2.5-3 lbs	18 x 10	300
Herring Sweet and Sour	2-3 oz.	6 x 2	300
Hans Steak Ribeye	8 oz.	6 x 4	250
Hans Steak Ribeye	6 oz.	6 x 4	200
Lemon Pepper Pork Chop	5 oz.	4 x 4	150

(Column 4 lines 49-63.) 150 milligram per square inch (the minimum amount disclosed by Meier) is 187,500 times greater than 0.0008 milligram per square inch (the minimum amount described by claim 27). Meier does not suggest a "finite number" of "identified predictable solutions" such that one of ordinary skill would have had a "reasonable expectation of success" in determining that a transfer of at least 0.0008 milligram per square inch causes the color change described in the present application. (See MPEP, §2143(E), Eighth Edition, August 2001, Latest Revision July 2008, citing Ex parte Kubin, 83 USPQ2d 1410 (Bd. Pat. App. & Int. 2007).)

In view of In re Lowry, In re Gulak, In re Royka and Martin, In re Antonie and Ex parte Kubin (as cited above), the applicant respectfully requests that the Examiner withdraw the 35 U.S.C. § 103(a) rejection of claim 27 (as amended) and allow this claim.

## 2. *Claims 12-15 and 17-18*

Paragraph 5 of the July 22, 2009 Office Action states that Claims 12-15 and 17-18 are rejected under 35 USC § 103(a) as allegedly being unpatentable over Meier et al. (US Patent 6,623,773) (Meier) in view of Ramsbottom (US Patent 2,621,129). The applicant respectfully traverses each of these rejections in light of the current claim amendments and the following remarks.

With the present submission, claim 12 continues to depend from claim 1. As described above, claim 1 is now amended to specify the effective amount of nitrogen oxide-containing compound as insufficient to effectively cure the entire myoglobin-containing food product. As also described above, Meier does not teach the element of a nitrogen oxide-containing compound in an amount that is insufficient to effectively cure an entire myoglobin-containing food product. With the current claim amendments, this limitation is included in claim 12. Therefore, the cited prior art does not teach or suggest every element of claim 12. The applicant respectfully requests that the Examiner withdraw the 35 U.S.C. § 103(a) rejection of claim 12 (as amended) and allow this claim.

With the present submission, claim 13 is amended to specify the effective amount of the nitrogen oxide-containing compound as insufficient to effectively cure the entire food item. (Claim 13 is also amended to specify the nitrogen-containing compound as a nitrogen oxide-containing compound, to specify the effective amount of the nitrogen oxide-containing compound as capable of creating and stabilizing a desirable color on a viewable surface of the food item, and to specify the tray and the film each as a barrier to oxygen (i.e., impermeable to air and not an air permeable packaging material as disclosed in, for example, US Patent 3,154,423 to Voegeli, et al.).) Neither

Meier nor Ramsbottom teach the element of a nitrogen oxide-containing compound in an amount that is insufficient to effectively cure an entire food item. With the current claim amendments, this limitation is included in claim 13. Therefore, the cited prior art does not teach or suggest every element of claim 13. The applicant respectfully requests that the Examiner withdraw the 35 U.S.C. § 103(a) rejection of claim 13 (as amended) and allow this claim.

With the present submission, claim 14 continues to depend from claim 13. As described above, claim 13 is now amended to specify the effective amount of the nitrogen oxide-containing compound as insufficient to effectively cure the entire food item. As also described above, Meier does not teach the element of a nitrogen oxide-containing compound in an amount that is insufficient to effectively cure an entire food item. With the current claim amendments, this limitation is included in claim 14. Therefore, the cited prior art does not teach or suggest every element of claim 14. The applicant respectfully requests that the Examiner withdraw the 35 U.S.C. § 103(a) rejection of claim 14 (as amended) and allow this claim.

For claim 15, the Examiner states,

With regard to Claim 15, the nitrogen containing compound is applied to the tray as the film is positioned over the tray.

For reference, claim 15, as reviewed by the Examiner for the July 22, 2009 Office Action, is reproduced below.

15. (original) The food packaging container of claim 13 wherein the nitrogen-containing compound is applied to the tray.

The applicant respectfully submits that the Examiner does not understand claims 13 and 15. Claim 15 depends from claim 13. Claim 13 describes a food packaging container comprising (1) a tray and (2) a film including an effective amount of nitrogen oxide-containing compound. As described in the original International Application as filed, for example, in claims 7 and 8, the nitrogen oxide-containing compound may be applied to or incorporated in the food contact layer of the film. In either case, the nitrogen oxide-containing compound transfers via contact with and dissolution into the juices of a food product. (International Application as filed, Abstract.) Nowhere does the present application describe transfer of the nitrogen oxide-containing compound merely by contact with a solid, non-porous, non-aqueous surface; and the Examiner is incorrect in assuming this to be the case. To further clarify the meaning of claim 15, with the present submission claim 15 is amended to state that the tray comprises the nitrogen oxide-containing compound, as a separate element from the film comprising

the nitrogen oxide-containing compound (as in claim 13). Additionally, with the present submission, claim 15 continues to depend from claim 13. As described above, claim 13 is now amended to specify the effective amount of the nitrogen oxide-containing compound as insufficient to effectively cure the entire food item. As also described above, Meier does not teach the element of a nitrogen oxide-containing compound in an amount that is insufficient to effectively cure an entire food item. With the current claim amendments, this limitation is included in claim 15. Therefore, the cited prior art does not teach or suggest every element of claim 15. For these reasons, the applicant respectfully requests that the Examiner withdraw the 35 U.S.C. § 103(a) rejection of claim 15 (as amended) and allow this claim.

For claim 17, the Examiner states,

With regard to Claim 17, Ramsbottom therefore disclose a method of packaging comprising applying the nitrogen oxide to the film and evacuating oxygen.

Applicant's attorney is, once again, confused by the Examiner's rejection and respectfully requests that the Examiner provide additional explanation. The applicant, again, respectfully submits that the rejection violates 37 C.F.R. § 1.104(c)(2):

In rejecting claims for want of novelty or for obviousness, the examiner must cite the best references at his or her command. When a reference is complex or shows or describes inventions other than that claimed by the applicant, the particular part relied on must be designated as nearly as practicable. The pertinence of each reference, if not apparent, must be clearly explained and each rejected claim specified.

It is not apparent to the applicant's attorney what particular part of Ramsbottom discloses applying nitrogen oxide to film. The applicant respectfully submits that the Examiner cited no basis for rejecting claim 17 and that the Examiner should have allowed this claim with the July 22, 2009 Office Action. Additionally, with the present submission, claim 17 continues to depend from claim 16. As described above, claim 16 is now amended to specify the oxide of nitrogen as in an amount that is insufficient to effectively cure the entire food item. As also described above, Meier does not teach the element of an oxide of nitrogen in an amount that is insufficient to effectively cure an entire food item. With the current claim amendments, this limitation is included in claim 17. Therefore, the cited prior art does not teach or suggest every element of claim 17. For these reasons, the applicant respectfully requests that the Examiner withdraw the 35 U.S.C. § 103(a) rejection of claim 17 (as amended) and allow this claim.

For claim 18, the Examiner states,

With regard to Claim 18, Ramsbottom discloses the introduction of other gases after evacuation of oxygen (column 1, line 9).

For reference, Column 1 lines 8-12 of Ramsbottom states,

The advantages of vacuum or inert gas packaging of foods, such as retention of color, flavor, and other properties, are common knowledge to those skilled in the art of food packaging. (Emphasis added.)

Applicant's attorney is, once again, confused by the Examiner's rejection of claim 18. As cited above, Ramsbottom discloses vacuum or inert gas packaging. Ramsbottom discloses an alternative, not a combination. The applicant respectfully submits that the Examiner cited no basis for rejecting claim 18 and that the Examiner should have allowed this claim with the July 22, 2009 Office Action.

Additionally, with the present submission, claim 18 continues to depend from claim 16. As described above, claim 16 is now amended to specify the oxide of nitrogen as in an amount that is insufficient to effectively cure the entire food item. As also described above, Meier does not teach the element of an oxide of nitrogen in an amount that is insufficient to effectively cure an entire food item. With the current claim amendments, this limitation is included in claim 18. Therefore, the cited prior art does not teach or suggest every element of claim 18. For these reasons, the applicant respectfully requests that the Examiner withdraw the 35 U.S.C. § 103(a) rejection of claim 18 (as amended) and allow this claim.

### *3. Summary of Response to Claim Rejections – 35 USC § 103*

As discussed above, the July 22, 2009 Office Action rejected claims 5, 12-15, 17-18 and 27 under 35 U.S.C. § 103(a) as allegedly being unpatentable over various prior art. The applicant respectfully traverses each of these rejections, as the cited prior art fails to include the limitations of these claims as amended. Primarily, but not exclusively, the cited prior art fails to include the limitation of a nitrogen oxide-containing compound in an amount insufficient to effectively cure an entire food item. With the present amendment, this limitation is included in each of claims 5, 12-15, 17-18 and 27. The cited prior art does not teach or suggest every element of claims 5, 12-15, 17-18 and 27. As such, each of these claims is patentable over the cited prior art.

### **III. CONCLUSION**

The applicant respectfully submits that, with the current amendments to claims 1, 16 and 26, Meier does not anticipate claims 1, 3-4, 7-11, 16, 20, 22-24 and 26 of the present application. Therefore, the applicant respectfully requests that the Examiner withdraw the 35 U.S.C. § 102(b)



rejection and allow each of these claims. Additionally, the applicant respectfully submits that, with the current amendments to claims 1, 13, 16 and 27, claims 5, 12-15, 17-18 and 27 of the present application are not obvious compared to the cited prior art. Therefore, the applicant respectfully requests that the Examiner withdraw the 35 U.S.C. § 103(a) rejection and allow each of these claims.

In view of the above remarks and amendments, the applicant submits that the claims of the present application are patentable and in condition for allowance. The applicant respectfully requests that the Examiner allow each of claims 1, 3-5, 7-18, 20, 22-24 and 26-27 of the present application. If a telephone conference would expedite review and allowance of the claims or if the Examiner has any questions, the Examiner may contact the applicant via applicant's attorney at (920) 303-7970.

Respectfully submitted,

Date: January 22, 2010

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